

WHAT IS CLAIMED IS:

1. A communication system having a first device and a second device for communicating with the first device through a wireless link, comprising:

5 the first device including;

means for setting a range in which a message transmitted from the first device reaches, wherein the message is for searching the second device to be communicated with the first device, and

10 means for causing the first device to transmit a message in accordance with the set range by said setting means,

the second device including;

means for receiving the message, and

15 means for responding to the message from the first device so as to set the wireless link.

2. A system according to claim 1, wherein the range which is set by said setting means and in which the message reaches is a distance from the first device.

20 3. A system according to claim 1, wherein the range which is set by said setting means and in which the message reaches is a directivity of the message transmitted from the first device.

25 4. A communication method for setting a wireless link between a first device and a second device, comprising the steps of:

setting a range in which a message transmitted from

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the first device reaches in the first device, wherein
the message is for searching the second device to be
communicated with the first device;

5 causing the first device to transmit a message in
accordance with the set range;

receiving the message from the first device and
outputting a response with respect to the received
message from the second device; and

10 setting the wireless link between the first device
and second device based on the response.

5. A method according to claim 4, wherein the range
which is set by said setting means and in which the
message reaches is a distance from the first device.

15 6. A method according to claim 4, wherein the range
which is set by said setting means and in which the
message reaches is a directivity of the message
transmitted from the first device.

20 7. A communication apparatus comprising:
means for setting a range in which a message
reaches, wherein the message is for searching an another
device to be communicated with self-apparatus through
a wireless link; and

means for transmitting the message in accordance
with the set range by said setting means.

25 8. An apparatus according to claim 7, wherein said
setting means inputs a distance from the self-apparatus
as a range in which the message reaches, and

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said message transmission means transmits a message with a transmission power value corresponding to the distance input by said setting means.

9. An apparatus according to claim 7, wherein said setting means inputs a direction from the self-apparatus as a range in which the message reaches, and

10 said message transmission means includes means for changing a direction in which the message is transmitted, and controls said changing means in accordance with the direction set by said setting means so as to transmit the message.

10. An apparatus according to claim 7, wherein said setting means comprises means for inputting a time during which transmission of the message continues, and

15 said message transmission means transmits the message only for the time input by said setting means.

11. An apparatus according to claim 7, further comprising:

20 means for sequentially displaying information acquired by the response message from the another apparatus every time the response message is received; and

25 means for terminating transmission of the message when an instruction to interrupt the transmission of the message is input in accordance with the information displayed by said display means.

12. A communication system having a first device and

a second device for communicating with the first device through a wireless link, comprising:

5 a first device which transmits a message for searching for the second device by radio communication,

wherein the first device comprises:

10 a main body which sets a range in which the message transmitted from the first device reaches and which outputs first control information in accordance with the set range;

15 a controller, connected to the main body via a data interface section, which receives the first control information from the main body and which outputs second control information based on the received first control information;

20 a transmission amplifier, connected to the controller, which amplifies the message based on the second control information and which transmits the amplified message to an antenna so as to transmit the message in accordance with the range set by the main body; and

25 an antenna control section, connected to the controller and the antenna, which controls an antenna directivity of the antenna based on the second control information output from the controller so as to transmit the message in accordance with the range set by the main body.

13. A communication system according to claim 12,

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wherein the range set by the main body indicates
a distance from the first device.

14. A communication system according to claim 12,
wherein the range set by the main body indicates a
5 directivity of the message transmitted from the first
device.

15. A communication system according to claim 12,
wherein the controller has a table which stores the
first control information output from the main body and
the controller outputs the first control information to
one of the transmission amplifier and antenna control
section.

16. A communication method for setting a wireless
link between a first device and a second device,
15 comprising the steps of:

setting a range in which a message transmitted from
the first device reaches in a main body of the first
device and outputting first control information in
accordance with the set range from the main body, wherein
20 the message is for searching for the second device;
receiving the first control information from the
main body in a controller connected to the main body via
a data interface, and outputting second control
information based on the received first control
25 information from the controller; and

controlling one of a transmission amplifier,
connected to the controller, which amplifies the message

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based on the second control information and which transmits the amplified message to an antenna and an antenna control section, connected to the controller and the antenna, which controls an antenna directivity of the antenna based on the second control information output from the controller.

5 17. A communication apparatus comprising:

10 a main body which sets a range in which a message transmitted from the communication apparatus reaches and which outputs control information in accordance with the set range, wherein the message is for searching for a device as a connection target by radio communication;

15 a controller, connected to the main body via a data interface section, which receives the first control information from the main body and which outputs second control information based on the received first control information;

20 a transmission amplifier, connected to the controller, which amplifies the message based on the second control information and which transmits the amplified message to an antenna so as to transmit the message in accordance with the range set by the main body; and

25 an antenna control section, connected to the controller and the antenna, which controls an antenna directivity of the antenna based on the second control information output from the controller so as to transmit

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the message in accordance with the range set by the main body.

18. A communication apparatus according to claim 17,
wherein the range set by the main body indicates
5 a distance from the communication apparatus.

19. A communication apparatus according to claim 17,
wherein the range set by the main body indicates
a directivity of the message transmitted from the
communication apparatus.

10 20. A communication apparatus according to claim 17,
wherein the controller has a table which stores the
first control information output from the main body and
the controller outputs the first control information to
one of the transmission amplifier and antenna control
15 section.

21. A communication system having a first device and
a second device for communicating with the first device
through a wireless link, comprising:

the first device including;
20 a first outputting means for outputting a
message to a first range in which the second device and
an external device are positioned,
a second outputting means for outputting the
message to a second range in which the second device is
25 positioned, the external device positioning out of the
second range, and
means for selecting one of the first outputting

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means and the second outputting means,
the second device including;
means for receiving the message, and
means for responding to the message from the
first device so as to set the wireless link.

5 22. A communication system according to claim 21,
wherein the second range represents a distance from
the first device.

10 23. A communication system according to claim 21,
wherein the second range represents a directivity of
the message transmitted from the first device.

24. A communication device for communicating with
an external device through a wireless link, comprising:
a first outputting means for outputting a message to
15 a first range in relation to a position of the external
device, the message being used to set the wireless link;
a second outputting means for outputting the message
to a second range different from the first range; and
means for selecting one of the first outputting
20 means and the second outputting means.

25. A communication device according to claim 24,
wherein the first range represents a distance from
the first device

26. A communication device according to claim 24,
wherein the first range represents a directivity of
the message transmitted from the first device.

27. A method for setting a wireless link between

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a first device and a second device, comprising the steps of:

5 determining one of a first range and a second range in relation to the position of the second device;

outputting a message from the first device to one of the first range and second range determined;

receiving a response to the message, from the second device; and

10 setting the wireless link on the basis of the response.

28. A method according to claim 27,

wherein the first range represents a distance from the first device and the second range represents a directivity of the message transmitted from the first device.

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